An undescribed species of *Orimarga* from Israel (Tipulidae: Diptera)

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During the summer of 1968 Dr. Saul I. Frommer, with Mrs. Suzy Frommer, travelled in Israel and there collected two interesting species of crane flies in the oasis of Ein Gedi. One of these is an undescribed member of the genus *Orimarga* Osten Sacken that is discussed at this time. Dates in parentheses throughout the text refer to the list of references cited at the conclusion of the paper.

Orimarga (Orimarga) frommeri **sp. n.**

Size medium (wing of male to about 6 mm); mesothorax yellowed, the notum patterned with brown; wings very slightly infuscated, unmarked; veins R_{1+2} and R_2 subequal, basal section of R_{4+5} long, subequal to the outer section, *r-m* and R_2 virtually in transverse alignment, cell M_3 subequal to M_{3+4}; male hypopygium with a setiferous lobe on mesal face of basistyle; phallosome with gonapophyses appearing as stout blades, outer end of basal stem with a row of strong setae, the outer extended lobe with more delicate scattered setae.

Male. — Length about 7.5 mm; wing 5 — 6 mm; antenna about 0.9 — 1.0 mm.

Described from alcoholic specimens. Rostrum light yellow, palpi black. Antennae with scape brown, remaining segments black; flagellar segments oval. Head dark gray pruinose.

Pronotum yellow. Mesonotal praescutum with disk covered by four confluent light brown stripes, the intermediate pair separated by a capillary paler vitta that is continued caudad almost to the abdomen; sides of praescutum and scutum narrowly yellowed. Parascutella, pleurotergite and pleura yellow. Halteres with stem light yellow, knob slightly darkened. Legs with coxae and trochanters yellow; a single detached leg remains in the vial, light brown, tips of femora vaguely more darkened. Wings (fig. 1) very weakly infuscated, unpatterned, prearcular and costal fields slightly more yellowed, including the prearcular veins, remaining veins light brown. Longitudinal veins beyond cord with abundant trichia, including also the outer end of vein *M*. Venation: R_{1+2} and R_2 subequal; basal section of R_{4+5} long, subequal to outer section; *r—m* virtually in transverse align-

ment with R_2, in cases slightly before or beyond; *r—m* posteriorly connecting with M_{1+2}; cell M_3 subequal in length to M_{3+4}; *m—cu* about opposite midlength of *Rs*. One wing of a paratype shows a peculiar deformation, having veins *M* and *Cu* fused into a stout common element for about their basal third.

Abdominal tergites and hypopygium light brown, sternites yellow. Male hypopygium (fig. 2) with basistyle, *b*, bearing a conspicuous lobe at base of mesal face, its outer margin with dense very long yellow setae. Dististyles, *d*, shortly united basally, outer style a slender gently curved blade that narrows very gradually into a needlelike spine; inner style slightly longer, narrowed at outer end, apex shallowly emarginate. Phallosome, *p*, with aedeagus, *a*, terminating in two needlelike points; gonapophyses, *g*, appearing as stout blades, outer end of their basal section slightly widened and with a row of strong setae, the more mesal ones stouter, beyond them the blade extended into an oval lobe that is provided with scattered long setae.

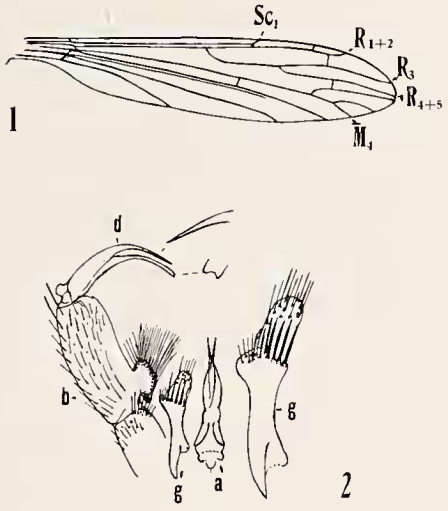
Holotype, alcoholic ♂, Ein Gedi, Israel, July 31, 1968 (Saul and Suzy Frommer), "under waterfalls flying about moss covered rocks in dimly lit area". Paratopotypes, 4 alcoholic ♂♂. In nature associated with *Limonia (Geranomyia) annandalei* (Edwards), as discussed later in this paper.

I take pleasure in naming this interesting crane fly for the collector, Dr. Saul I. Frommer, Curator of the Insect Collections of the University of California, Riverside, where the type of the species is deposited. Dr. Frommer is a student of the Nematocerous Diptera, particularly the Tipulidae and Chironomidae. Attention is directed to his important study on the reproductive systems in the Tipulidae (Frommer, 1963).

There are approximately seven species of *Orimarga* in the western Palaearctic region, almost all being from northern and central Europe, one occurring in northern Africa. The most comprehensive treatment of these species is by Tjeder (1958) who discusses in detail the three species from Sweden defined in 1851 by Zetterstedt, *Orimarga alpina, O. juvenilis,* and *O. virgo,* providing excellent figures of all of these, based on lectotype specimens. The earlier *Orimarga attenuata* (Walker, 1848) had been considered by Edwards (1938) to be the prior name for *O. alpina* but this is questioned by Tjeder and the matter must be held in doubt. It may be noted that Vaillant (1950: 46) states that in *attenuata* vein M_{3+4} of the wings is unforked, leaving only two outer branches of *M* to produce the condition found in the subgenus *Diotrepha* Osten Sacken, of the New World. This statement is incorrect since *attenuata* has three branches to Media as in all other known members of the typical subgenus. *Orimarga virgo* differs from all other species in its venation, having *r—m* connecting posteriorly with the main stem of *M* before the fork, the other species

with this crossvein beyond the fork, connecting with vein M_{1+2}, as shown for the present fly (fig. 1).

Orimarga anomala Mik (1883) was placed in the synonymy of *O. virgo* by Kertész but this assignment is questionable and the matter should be re-studied. *Orimarga hygropetrica* Vaillant (1950) is larger than the present fly (length 9 to 11 mm) and has the venational details distinct, including the more basal position of *m—cu* and the short arcuated basal section of R_{4+5}. This interesting fly was discovered in the vicinity of Grenoble,



Orimarga (Orimarga) *frommeri* sp. n. Fig. 1. Venation

Fig. 2. Male hypopygium

(Symbols: Venation: *M* — Media; *R* — Radius; *Sc* — Subcosta.
Male hypopygium: *a*, aedeagus; *b*, basistyle; *d*, dististyle; *g*, gonapophysis).

France, where the life history was studied by Vaillant and the early stages described and figured. It is of interest to note that the early stages of this species occur in hygropetric habitats and contrast with the same stages of the type species of the second subgenus, *Orimarga (Diotrepha) mirabilis* (Osten Sacken) which are found in decaying wood, as described by Rogers (1927).

Orimarga stenoptera (Séguy, 1936), described from Algeria, originally was assigned to the genus *Gonomyia* but unquestionably is a species of *Orimarga*. It differs from the present fly in the unusually long abdomen and narrow wings, with vein R_{2+3} short, subequal to R_2 or to the basal section of R_{4+5}, and with cell M_3 deep, veins M_3 and M_4 being two or more times vein M_{3+4}. It may be noted that Seguy's figure of the type female of this species is incorrect in the number of antennal segments which are

shown as being in excess of 20 whereas both *Orimarga* and *Gonomyia* have the normal number of 16 segments.

The north European species differ conspicuously from the present fly in being larger (wing commonly 7 mm or more) and dark in color, with the exception of *Orimarga juvenilis* which is most similar in size, venation and coloration but differs evidently in hypopygial structure (Tjeder, 1958, p. 165, figs. 31—34).

Associated with the present fly at Ein Gedi was *Limonia (Geranomyia) annandalei* (Edwards), as mentioned earlier. The type of this species was from Israel, having been collected by Dr. Thomas Nelson Annandale in 1912 on the Plain of Gennesaret, near Lake Tiberias, where it was found on lime stone cliffs overhanging a spring. The Frommer material includes one male and one female, the latter much smaller, both specimens having been returned to the collector. Edwards' statement that the maxillary palpi are one-segmented, instead of having two segments as normal for the subgenus, appears to be confirmed by the present materials. It may be noted that the male hypopygium appears to have a single spine or perhaps two very closely approximated spines on the rostral prolongation of the ventral dististyle.

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